



September 26, 2016

Meagan E. Ormand Golder Associates Inc. 2108 W. Laburnum Ave. Suite 200 Richmond, VA 23227

RE: Project: Bremo Weekly Process Pace Project No.: 92313186

Dear Meagan Ormand:

Enclosed are the analytical results for sample(s) received by the laboratory on September 21, 2016. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

Analyses were performed at the Pace Analytical Services location indicated on the sample analyte page for analysis unless otherwise footnoted.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Nicole Gasiorowski

Micolo Yasicronske

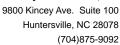
nicole.gasiorowski@pacelabs.com

Project Manager

Enclosures

cc: Ron DiFrancesco, Golder Associates Inc. Martha Smith, Golder Associates Inc. Mike Williams, Golder Associates Inc







CERTIFICATIONS

Project: Bremo Weekly Process

Pace Project No.: 92313186

Ormond Beach Certification IDs

8 East Tower Circle, Ormond Beach, FL 32174

Alabama Certification #: 41320 Connecticut Certification #: PH-0216

Delaware Certification: FL NELAC Reciprocity

Florida Certification #: E83079 Georgia Certification #: 955

Guam Certification: FL NELAC Reciprocity Hawaii Certification: FL NELAC Reciprocity

Illinois Certification #: 200068

Indiana Certification: FL NELAC Reciprocity

Kansas Certification #: E-10383

Louisiana Certification #: FL NELAC Reciprocity

Louisiana Environmental Certificate #: 05007

Maryland Certification: #346 Michigan Certification #: 9911

Mississippi Certification: FL NELAC Reciprocity

Missouri Certification #: 236

Montana Certification #: Cert 0074

Charlotte Certification IDs

9800 Kincey Ave. Ste 100, Huntersville, NC 28078 North Carolina Drinking Water Certification #: 37706 North Carolina Field Services Certification #: 5342

North Carolina Wastewater Certification #: 12

Asheville Certification IDs

2225 Riverside Drive, Asheville, NC 28804 Florida/NELAP Certification #: E87648 Massachusetts Certification #: M-NC030

North Carolina Drinking Water Certification #: 37712

Eden Certification IDs

205 East Meadow Road Suite A, Eden, NC 27288

North Carolina Drinking Water Certification #: 37738

Nebraska Certification: NE-OS-28-14

Nevada Certification: FL NELAC Reciprocity

New York Certification #: 11608

North Carolina Environmental Certificate #: 667

North Carolina Certification #: 12710 North Dakota Certification #: R-216 Oklahoma Certification #: D9947 Pennsylvania Certification #: 68-00547 Puerto Rico Certification #: FL01264 South Carolina Certification: #96042001

Tennessee Certification #: TN02974 Texas Certification: FL NELAC Reciprocity

US Virgin Islands Certification: FL NELAC Reciprocity

Virginia Environmental Certification #: 460165 Wyoming Certification: FL NELAC Reciprocity

West Virginia Certification #: 9962C Wisconsin Certification #: 399079670

Wyoming (EPA Region 8): FL NELAC Reciprocity

South Carolina Certification #: 99006001 Florida/NELAP Certification #: E87627

Kentucky UST Certification #: 84

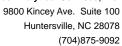
Virginia/VELAP Certification #: 460221

North Carolina Wastewater Certification #: 40 South Carolina Certification #: 99030001

Virginia/VELAP Certification #: 460222

North Carolina Wastewater Certification #: 633

Virginia/VELAP Certification #: 460025



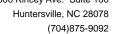


SAMPLE ANALYTE COUNT

Project: Bremo Weekly Process

Pace Project No.: 92313186

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92313186001	T4-160920-1735-S3	SM 2540D	KCE	1	PASI-E
		EPA 350.1 1993 Rev 2.0	KCE	1	PASI-E
		SM 4500-CI-E-2011	KCE	1	PASI-E
		EPA 1664B	JMS	1	PASI-C
		EPA 200.7	RVK	1	PASI-O
		Trivalent Chromium Calculation	CKJ	1	PASI-O
		EPA 200.8	CKJ	10	PASI-O
		EPA 245.1	WAB	1	PASI-A
		EPA 218.7	AEM	1	PASI-O





PROJECT NARRATIVE

Project: Bremo Weekly Process

Pace Project No.: 92313186

Method: SM 2540D

Description: 2540D TSS, Low-Level, Eden Client: Golder_Dominion_Bremo Date: September 26, 2016

General Information:

1 sample was analyzed for SM 2540D. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.



Huntersville, NC 28078 (704)875-9092

PROJECT NARRATIVE

Project: Bremo Weekly Process

Pace Project No.: 92313186

Method: EPA 350.1 1993 Rev 2.0

Description: 350.1 Ammonia

Client: Golder_Dominion_Bremo
Date: September 26, 2016

General Information:

1 sample was analyzed for EPA 350.1 1993 Rev 2.0. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:

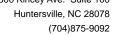
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.





PROJECT NARRATIVE

Project: Bremo Weekly Process

Pace Project No.: 92313186

Method: SM 4500-CI-E-2011 Description: 4500 Chloride

Client: Golder_Dominion_Bremo
Date: September 26, 2016

General Information:

1 sample was analyzed for SM 4500-CI-E-2011. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

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PROJECT NARRATIVE

Project: Bremo Weekly Process

Pace Project No.: 92313186

Method: EPA 1664B

Description: HEM, Oil and Grease
Client: Golder_Dominion_Bremo
Date: September 26, 2016

General Information:

1 sample was analyzed for EPA 1664B. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.



9800 Kincey Ave. Suite 100 Huntersville, NC 28078 (704)875-9092

PROJECT NARRATIVE

Project: Bremo Weekly Process

Pace Project No.: 92313186

Method: EPA 200.7
Description: 200.7 MET ICP

Client: Golder_Dominion_Bremo
Date: September 26, 2016

General Information:

1 sample was analyzed for EPA 200.7. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:

The samples were prepared in accordance with EPA 200.7 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Method Blank:

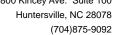
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.





PROJECT NARRATIVE

Project: Bremo Weekly Process

Pace Project No.: 92313186

Method: Trivalent Chromium Calculation
Description: Trivalent Chromium Calculation
Client: Golder_Dominion_Bremo
Date: September 26, 2016

General Information:

1 sample was analyzed for Trivalent Chromium Calculation. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.



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PROJECT NARRATIVE

Project: Bremo Weekly Process

Pace Project No.: 92313186

Method: EPA 200.8

Description: 200.8 MET ICPMS
Client: Golder_Dominion_Bremo
Date: September 26, 2016

General Information:

1 sample was analyzed for EPA 200.8. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:

The samples were prepared in accordance with EPA 200.8 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: 322086

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 92313198001,92313198002

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MS (Lab ID: 1714588)
 - Antimony
 - Arsenic
- MSD (Lab ID: 1714589)
 - Antimony
 - Arsenic

Additional Comments:

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PROJECT NARRATIVE

Project: Bremo Weekly Process

Pace Project No.: 92313186

Method: EPA 245.1 Description: 245.1 Mercury

Client: Golder_Dominion_Bremo
Date: September 26, 2016

General Information:

1 sample was analyzed for EPA 245.1. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:

The samples were prepared in accordance with EPA 245.1 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

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PROJECT NARRATIVE

Project: Bremo Weekly Process

Pace Project No.: 92313186

Method: EPA 218.7

Description: Hexavalent Chromium by IC
Client: Golder_Dominion_Bremo
Date: September 26, 2016

General Information:

1 sample was analyzed for EPA 218.7. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.



ANALYTICAL RESULTS

Project: Bremo Weekly Process

Pace Project No.: 92313186

Date: 09/26/2016 11:40 AM

Sample: T4-160920-1735-S3	Lab ID: 923	313186001	Collected: 09/20/1	6 17:35	Received: 09	9/21/16 13:30	3:30 Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual		
2540D TSS, Low-Level, Eden	Analytical Met	hod: SM 254	10D							
Total Suspended Solids	ND	mg/L	1.0	1		09/22/16 10:3	0			
350.1 Ammonia	Analytical Met	hod: EPA 35	0.1 1993 Rev 2.0							
Nitrogen, Ammonia	ND	mg/L	0.20	1		09/22/16 14:1	0 7664-41-7			
4500 Chloride	Analytical Met	hod: SM 450	00-CI-E-2011							
Chloride	50.9	mg/L	5.0	5		09/22/16 10:3	9 16887-00-6			
Field Data	Analytical Met	hod:								
Collected By	L. Hamelman			1		09/20/16 17:4	2			
Collected Date	09/20/16			1		09/20/16 17:4:	2			
Collected Time	17:35			1		09/20/16 17:4:				
Field pH	7.9	Std. Units	0.10	1		09/20/16 17:4				
HEM, Oil and Grease	Analytical Met	hod: EPA 16	64B							
Oil and Grease	ND	mg/L	5.0	1		09/22/16 07:5	5			
200.7 MET ICP	Analytical Met	hod: EPA 20	0.7 Preparation Met	hod: EP	A 200.7					
Tot Hardness asCaCO3 (SM 2340B	180000	ug/L	3300	1	09/22/16 12:50	09/22/16 16:2	3			
Trivalent Chromium Calculation	Analytical Met	hod: Trivaler	nt Chromium Calcula	tion						
Chromium, Trivalent	ND	ug/L	5.0	1		09/22/16 17:1	2 16065-83-1			
200.8 MET ICPMS	Analytical Met	hod: EPA 20	0.8 Preparation Met	hod: EP	A 200.8					
Antimony	ND	ug/L	5.0	1	09/22/16 12:50	09/22/16 16:3	3 7440-36-0			
Arsenic	50.5	ug/L	5.0	1	09/22/16 12:50					
Cadmium	ND	ug/L	1.0	1	09/22/16 12:50					
Copper	ND	ug/L	5.0	1	09/22/16 12:50					
Lead	ND	ug/L	5.0	1	09/22/16 12:50					
Nickel	ND	ug/L	5.0	1	09/22/16 12:50					
Selenium	ND	ug/L	5.0	1	09/22/16 12:50					
Silver	ND	ug/L	0.40	1	09/22/16 12:50	09/22/16 16:3	3 7440-22-4			
Thallium	ND	ug/L	1.0	1	09/22/16 12:50	09/22/16 16:3	3 7440-28-0			
Zinc	ND	ug/L	25.0	1	09/22/16 12:50	09/22/16 16:3	3 7440-66-6			
245.1 Mercury	Analytical Met	hod: EPA 24	5.1 Preparation Met	hod: EP	A 245.1					
Mercury	ND	ug/L	0.10	1	09/22/16 10:50	09/22/16 14:1	8 7439-97-6			
Hexavalent Chromium by IC	Analytical Met	hod: EPA 21	8.7							
Chromium, Hexavalent	ND	ug/L	1.0	1		09/22/16 14:4	5 18540-29-9			



SM 2540D

Project: Bremo Weekly Process

Pace Project No.: 92313186

QC Batch: 329818 Analysis Method:

QC Batch Method: SM 2540D Analysis Description: 2540D TSS, Low Level, Eden

Associated Lab Samples: 92313186001

METHOD BLANK: 1827447 Matrix: Water

Associated Lab Samples: 92313186001

Blank Reporting
Parameter Units Result Limit Analyzed Qualifiers

Total Suspended Solids mg/L ND 1.0 09/22/16 10:27

LABORATORY CONTROL SAMPLE: 1827448

Spike LCS LCS % Rec Parameter Units Conc. Result % Rec Limits Qualifiers **Total Suspended Solids** mg/L 250 250 100 90-110

SAMPLE DUPLICATE: 1827449

Date: 09/26/2016 11:40 AM

Parameter Units Parameter Units Parameter Units Parameter Result Result RPD Qualifiers Total Suspended Solids mg/L ND ND

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.



EPA 350.1 1993 Rev 2.0

350.1 Ammonia, EDEN

Analysis Method:

Analysis Description:

Project: Bremo Weekly Process

Pace Project No.: 92313186

Date: 09/26/2016 11:40 AM

QC Batch: 329821

QC Batch Method: EPA 350.1 1993 Rev 2.0

Associated Lab Samples: 92313186001

METHOD BLANK: 1827461 Matrix: Water

Associated Lab Samples: 92313186001

Blank Reporting

Parameter Units Result Limit Analyzed Qualifiers

Nitrogen, Ammonia mg/L ND 0.20 09/22/16 14:01

LABORATORY CONTROL SAMPLE: 1827462

Spike LCS LCS % Rec Parameter Units Conc. Result % Rec Limits Qualifiers Nitrogen, Ammonia mg/L 5.1 103 90-110

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1827463 1827464

MS MSD 92313206002 Spike Spike MS MSD MS MSD % Rec Parameter Units Result Conc. Conc. Result Result % Rec % Rec Limits RPD Qual Nitrogen, Ammonia ND 5 5 4.7 4.8 90-110 2 mg/L 93 94

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.



Project: Bremo Weekly Process

Pace Project No.: 92313186

Date: 09/26/2016 11:40 AM

QC Batch: 329796 Analysis Method: SM 4500-CI-E-2011
QC Batch Method: SM 4500-CI-E-2011 Analysis Description: 4500 Chloride, EDEN

Associated Lab Samples: 92313186001

METHOD BLANK: 1827389 Matrix: Water

Associated Lab Samples: 92313186001

Blank Reporting
Parameter Units Result Limit Analyzed Qualifiers

Chloride mg/L ND 1.0 09/22/16 10:30

LABORATORY CONTROL SAMPLE: 1827390

Spike LCS LCS % Rec Parameter Units Conc. Result % Rec Limits Qualifiers Chloride mg/L 10 10.0 100 90-110

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1827391 1827392

MS MSD 92313206002 Spike Spike MS MSD MS MSD % Rec Parameter Units Result Conc. Conc. Result Result % Rec % Rec Limits RPD Qual ND Chloride mg/L 10 10 10.9 9.9 109 99 90-110 10

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.



Project: Bremo Weekly Process

Pace Project No.: 92313186

QC Batch: 329770 Analysis Method: EPA 1664B

QC Batch Method: EPA 1664B Analysis Description: 1664 HEM, Oil and Grease

Associated Lab Samples: 92313186001

METHOD BLANK: 1827297 Matrix: Water

Associated Lab Samples: 92313186001

Blank Reporting
Parameter Units Result Limit Analyzed Qualifiers

Oil and Grease mg/L ND 5.0 09/22/16 07:44

LABORATORY CONTROL SAMPLE: 1827298

Spike LCS LCS % Rec Parameter Units Conc. Result % Rec Limits Qualifiers Oil and Grease mg/L 40 35.1 88 78-114

MATRIX SPIKE SAMPLE: 1827299

Date: 09/26/2016 11:40 AM

92313151001 Spike MS MS % Rec Parameter Units Result Conc. Result % Rec Limits Qualifiers ND Oil and Grease 40 36.5 91 78-114 mg/L

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.



Project: Bremo Weekly Process

Pace Project No.: 92313186

Date: 09/26/2016 11:40 AM

QC Batch: 329813 Analysis Method: EPA 245.1

QC Batch Method: EPA 245.1 Analysis Description: 245.1 Mercury

Associated Lab Samples: 92313186001

METHOD BLANK: 1827435 Matrix: Water

Associated Lab Samples: 92313186001

Blank Reporting
Parameter Units Result Limit Analyzed Qualifiers

Mercury ug/L ND 0.10 09/22/16 14:03

LABORATORY CONTROL SAMPLE: 1827436

Spike LCS LCS % Rec Parameter Units Conc. Result % Rec Limits Qualifiers Mercury ug/L 2.5 2.6 104 85-115

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1827437 1827438

MS MSD 92313206001 Spike Spike MS MSD MS MSD % Rec Parameter Units Result Conc. Conc. Result Result % Rec % Rec Limits RPD Qual ug/L ND 2.5 2.3 70-130 Mercury 2.5 2.4 95 93 3

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.



Project: Bremo Weekly Process

Pace Project No.: 92313186

QC Batch: 322085 Analysis Method: EPA 200.7 QC Batch Method: EPA 200.7 Analysis Description: 200.7 MET

Associated Lab Samples: 92313186001

METHOD BLANK: 1714580 Matrix: Water

Associated Lab Samples: 92313186001

Blank Reporting Parameter Limit Qualifiers Units Result Analyzed ND 3300

Tot Hardness asCaCO3 (SM 2340B 09/22/16 16:55 ug/L

LABORATORY CONTROL SAMPLE: 1714581

Spike LCS LCS % Rec Parameter Units Conc. Result % Rec Limits Qualifiers Tot Hardness asCaCO3 (SM 2340B ug/L 82700 89500 108 85-115

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1714582 1714583

MS MSD 92313186001 Spike Spike MS MSD MS MSD % Rec Parameter Units Result Conc. Conc. Result Result % Rec % Rec Limits RPD Qual Tot Hardness asCaCO3 (SM 180000 82700 265000 70-130 ug/L 82700 272000 103 112 3

2340B

Date: 09/26/2016 11:40 AM

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.



Project: Bremo Weekly Process

Pace Project No.: 92313186

QC Batch: 322086 Analysis Method: EPA 200.8
QC Batch Method: EPA 200.8 Analysis Description: 200.8 MET

Associated Lab Samples: 92313186001

METHOD BLANK: 1714584 Matrix: Water

Associated Lab Samples: 92313186001

		Blank	Reporting		
Parameter	Units	Result	Limit	Analyzed	Qualifiers
Antimony	ug/L	ND	5.0	09/22/16 16:19	
Arsenic	ug/L	ND	5.0	09/22/16 16:19	
Cadmium	ug/L	ND	1.0	09/22/16 16:19	
Copper	ug/L	ND	5.0	09/22/16 16:19	
Lead	ug/L	ND	5.0	09/22/16 16:19	
Nickel	ug/L	ND	5.0	09/22/16 16:19	
Selenium	ug/L	ND	5.0	09/22/16 16:19	
Silver	ug/L	ND	0.40	09/22/16 16:19	
Thallium	ug/L	ND	1.0	09/22/16 16:19	
Zinc	ug/L	ND	25.0	09/22/16 16:19	

LABORATORY CONTROL SAMP	LE:	1714585
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Date: 09/26/2016 11:40 AM

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L		48.2	96	85-115	
Arsenic	ug/L	50	49.4	99	85-115	
Cadmium	ug/L	5	4.9	97	85-115	
Copper	ug/L	50	53.8	108	85-115	
Lead	ug/L	50	48.9	98	85-115	
Nickel	ug/L	50	53.8	108	85-115	
Selenium	ug/L	50	48.7	97	85-115	
Silver	ug/L	5	5.0	100	85-115	
Thallium	ug/L	50	47.8	96	85-115	
Zinc	ug/L	250	261	105	85-115	

MATRIX SPIKE & MATRIX SI	PIKE DUPLICAT	E: 17145	86		1714587						
			MS	MSD							
	923	313198001	Spike	Spike	MS	MSD	MS	MSD	% Rec		
Parameter	meter Units F		Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	Qual
Antimony	ug/L	3.7J	50	50	51.1	51.2	95	95	70-130		
Arsenic	ug/L	62.8	50	50	112	111	98	96	70-130	1	
Cadmium	ug/L	ND	5	5	4.7	4.7	93	93	70-130	0	
Copper	ug/L	ND	50	50	47.8	48.6	95	97	70-130	2	
Lead	ug/L	ND	50	50	50.6	50.8	101	101	70-130	0	
Nickel	ug/L	8.1	50	50	56.4	57.1	97	98	70-130	1	
Selenium	ug/L	0.60J	50	50	46.5	47.0	92	93	70-130	1	
Silver	ug/L	ND	5	5	4.7	4.7	94	94	70-130	1	
Thallium	ug/L	0.28J	50	50	50.4	50.8	100	101	70-130	1	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.



Project: Bremo Weekly Process

Pace Project No.: 92313186

Date: 09/26/2016 11:40 AM

MATRIX SPIKE & MATRIX S		PIKE DUPLICATE: 171458 92313198001			1714587 MS	MSD	MS	MSD	% Rec		
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	Qual
Zinc	ug/L	3.8J	250	250	232	237	91	93	70-130		
MATRIX SPIKE & MATRIX S	SPIKE DUPLICATE	: 17145	88		1714589						
			MS	MSD							
	9231	3198002	Spike	Spike	MS	MSD	MS	MSD	% Rec		
Doromotor	Linita	Dogult	Cono	Cono	Dogult	Dogult	9/ Boo	9/ Boo	Limito	DDD	Ougl

			MS	MSD							
	923	313198002	Spike	Spike	MS	MSD	MS	MSD	% Rec		
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	Qua
Antimony	ug/L	22.6	50	50	51.0	51.4	57	58	70-130	1 M1	
Arsenic	ug/L	379	50	50	51.2	52.1	-655	-654	70-130	2 M1	
Cadmium	ug/L	0.18J	5	5	5.1	5.0	99	97	70-130	1	
Copper	ug/L	1.1J	50	50	64.4	65.8	127	129	70-130	2	
Lead	ug/L	ND	50	50	51.2	51.8	102	103	70-130	1	
Nickel	ug/L	7.2	50	50	56.9	59.0	99	103	70-130	4	
Selenium	ug/L	9.0	50	50	48.7	49.8	79	82	70-130	2	
Silver	ug/L	ND	5	5	5.2	5.3	104	105	70-130	1	
Thallium	ug/L	0.97J	50	50	49.7	50.2	97	98	70-130	1	
Zinc	ug/L	3.1J	250	250	304	312	120	124	70-130	3	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.



Project: Bremo Weekly Process

Pace Project No.: 92313186

Date: 09/26/2016 11:40 AM

QC Batch: 322080 Analysis Method: EPA 218.7

QC Batch Method: EPA 218.7 Analysis Description: Chromium, Hexavalent IC

Associated Lab Samples: 92313186001

METHOD BLANK: 1714553 Matrix: Water

Associated Lab Samples: 92313186001

Blank Reporting
Parameter Units Result Limit Analyzed Qualifiers

Chromium, Hexavalent ug/L ND 1.0 09/22/16 13:26

LABORATORY CONTROL SAMPLE: 1714554

Spike LCS LCS % Rec Parameter Units Conc. Result % Rec Limits Qualifiers Chromium, Hexavalent ug/L .075 .075J 100 85-115

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1714555 1714556

MS MSD 92312596036 Spike Spike MS MSD MS MSD % Rec Parameter Units Result Conc. Conc. Result Result % Rec % Rec Limits RPD Qual Chromium, Hexavalent ug/L 0.71 85-115 .38 .38 1.1J 1.1J 103 105 1

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.



QUALIFIERS

Project: Bremo Weekly Process

Pace Project No.: 92313186

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

Acid preservation may not be appropriate for 2 Chloroethylvinyl ether.

A separate vial preserved to a pH of 4-5 is recommended in SW846 Chapter 4 for the analysis of Acrolein and Acrylonitrile by EPA Method 8260.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

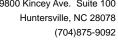
PASI-A	Pace Analytical Services - Asheville
PASI-C	Pace Analytical Services - Charlotte
PASI-E	Pace Analytical Services - Eden
DACLO	Dana Arabataal Camaiaaa Oomaaaal Da

PASI-O Pace Analytical Services - Ormond Beach

ANALYTE QUALIFIERS

Date: 09/26/2016 11:40 AM

M1 Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.





QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Bremo Weekly Process

Pace Project No.: 92313186

Date: 09/26/2016 11:40 AM

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92313186001	T4-160920-1735-S3	SM 2540D	329818		
92313186001	T4-160920-1735-S3	EPA 350.1 1993 Rev 2.0	329821		
92313186001	T4-160920-1735-S3	SM 4500-CI-E-2011	329796		
92313186001	T4-160920-1735-S3				
92313186001	T4-160920-1735-S3	EPA 1664B	329770		
92313186001	T4-160920-1735-S3	EPA 200.7	322085	EPA 200.7	322135
92313186001	T4-160920-1735-S3	Trivalent Chromium Calculation	322151		
92313186001	T4-160920-1735-S3	EPA 200.8	322086	EPA 200.8	322134
92313186001	T4-160920-1735-S3	EPA 245.1	329813	EPA 245.1	329837
92313186001	T4-160920-1735-S3	EPA 218.7	322080		

Face Analytical*

Out of hold, incorrect preservative, out of temp, incorrect containers)

Document Name: Sample Condition Upon Receipt(SCUR)

Document No.: F-MEC-CS-009-Rev.03 Document Revised: May 24, 2016 Page 1 of 2

Issuing Authority:

Pace Mechanicsville Quality Office

				Page 2 of 2 for Internal Use ONI Y
Sample Condition Upon Client Name:				Project #: WO#: 92313186
GOLDEN	Brer	VID		Project #: WU# · 92313100
Courier: Fed Ex UPS	US	1.0		Client
☐ Commercia I ☐ Pace	Otl	ner:	<u></u>	92313186
Custody Seal Present? Yes No Sea	ls Intact?	✓Y	es [No
Badis Matarials Database		<u> </u>		Date/Initials Person Examining Contents: 4-21-16
Packing Material: Bubble Wrap DB Thermometer:	ubble Bags		1	
X RMD001 □	Туре о	f Ice:	Wet	Blue None Samples on ice, cooling process has begun
Correction Factor: 0.0°C Cooler Temp Corrected (°C	c):	3.6		Biological Tissue Frozen? Yes No N/A
Temp should be above freezing to 6°C USDA Regulated Soil (N/A, water sample)				
Did samples originate in a quarantine zone within the Unite	ed States: CA	NY, or	SC (check	maps)? Did samples originate from a foreign source (internationally,
Yes No		•		including Hawaii and Puerto Rico)? Yes No
				Comments/Discrepancy:
Chain of Custody Present?	Yes	□No	□N/A	1.
Samples Arrived within Hold Time?	Yes	No	□N/A	2.
Short Hold Time Analysis (<72 hr.)?	Yes	No	□N/A	3.
Rush Turn Around Time Requested?	Yes	□No	□N/A	4.
Sufficient Volume?	Yes	□No	□N/A	5.
Correct Containers Used?	√Yes	□No	□N/A	6.
-Pace Containers Used?	√Yes	□No	□N/A	
Containers Intact?	Yes	□No	□N/A	7.
Samples Field Filtered?	□Yes	□No	ďn/a	8. Note if sediment is visible in the dissolved container
Sample Labels Match COC?	Yes	□No	□n/a	9.
-Includes Date/Time/ID/Analysis Matrix: WW				
All containers needing acid/base preservation have been		_	<u></u>	10. _{HNC3 pH<2}
checked? All containers needing preservation are found to be in	√Yes	□No	□n/a	HQ pH<2
compliance with EPA recommendation?	1			H2SO4 pH<2
(HNO ₃ , H ₂ SO ₄ , HCI<2; NaOH >9 Sulfide, NaOH>12 Cyanide)	Yes	□No	□n/a	NaOH pH>12
Exceptions: VOA, Coliform, TOC, Oil and Grease, DRO/8015 (water) DOC,LLHg	Yes	□No	□n/a	NaOH/ZnOAc pH>9
Samples checked for dechlorination?	Yes	□No	N/A	11.
Headspace in VOA Vials (>5-6mm)?	Yes	□No	N/A	12.
Trip Blank Present?	□Yes	□No	MN/A	13.
Trip Blank Custody Seals Present?	□Yes	□No	N/A	N.
Pace Trip Blank Lot # (if purchased):		1	-	6
CLIENT NOTIFICATION/RESOLUTION				Field Data Required? Yes No
Danca Cartanto				
Person Contacted: Comments/Sample				Date/Time:
Discrepancy:				
				-1 · i
Project Manager SCURF Review:	NW	lli		Date: 9/22/16
		me		Glanly
Project Manager SRF Review: Note: Whenever there is a discrepancy affecting North Carolin	, ,			Date: (LCC) (V)

Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Document The Chain-dicustory is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

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*Imported Note: By agoing this form you are serveling Pures's NET 30 day payment terms and agranged to late charges of 15% per month for any involves not pure within 30 days.

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